

(19) World Intellectual Property
Organization
International Bureau



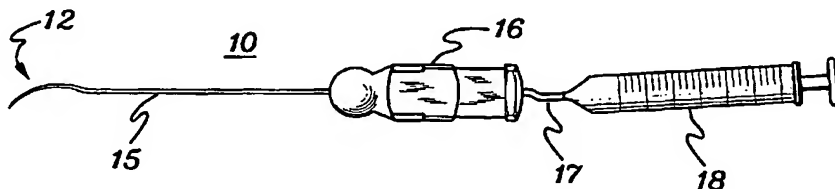
(43) International Publication Date
22 April 2004 (22.04.2004)

PCT

(10) International Publication Number
WO 2004/033635 A2

- (51) International Patent Classification⁷: **C12N**
- (21) International Application Number:
PCT/US2003/031464
- (22) International Filing Date: 6 October 2003 (06.10.2003)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
60/415,986 4 October 2002 (04.10.2002) US
- (71) Applicant (for all designated States except US): **TIS-SUETECH, INC.** [US/US]; Ocular Surface Center, Suite 203, 8780 SW 92nd Street, Miami, FL 33176 (US).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): **BINDER, Susanne** [AT/AT]; Zeltgasse 1, A-1080 Vienna (AT). **TSENG, Scheffer, C., G.** [US/US]; 10000 SW 63rd Place, Pinecrest, FL 33176 (US).
- (74) Agents: **ARENDT, Jacqueline, M.** et al.; Arendt & Associates Intellectual Property Group, 1740 Massachusetts Avenue, Boxborough, MA 01719-2209 (US).
- (81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).
- Published:**
— without international search report and to be republished upon receipt of that report
- For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: RETINAL PIGMENT EPITHELIAL CELL CULTURES ON AMNIOTIC MEMBRANE AND TRANSPLANTATION



(57) Abstract—The present invention relates to a composition for implantation in the subretinal space of an eye, the composition including amniotic membrane, which may be cryopreserved human amniotic membrane, and a plurality of retinal pigment epithelial (RPE) cells or RPE equivalent cells present at the amniotic membrane. The amniotic membrane may be intact, epithelially denuded, or otherwise treated. The invention includes the use of amniotic membrane for the culturing of RPE cells thereon, forming a surgical graft for replacement of Bruch's membrane as a substrate, and for the transplanting of RPE cells to the subretinal space. The composition does not elicit immunological reactions to alloantigens or to RPE specific autoantigens; and exerts anti-inflammatory, anti-angiogenic, and anti-scarring effects. The invention includes methods and kits for making or using composites including amniotic membrane and RPE cells. Also disclosed is a device for harvesting RPE cells.

WO 2004/033635 A2